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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,926	05/30/2001	Volker Hilarius	MERCK 2264	5145

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EXAMINER
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ART UNIT	PAPER NUMBER
2626	7

DATE MAILED: 04/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,926	HILARIUS ET AL	
	Examiner	Art Unit	
	Andrea D Small	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *11-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

DETAILED ACTION

I. Applicant's Response:

(a) Applicants response filed 3/11/03 has been received and entered as paper no. 6

(b) Claims 16 and 17 have been newly added. No new matter has been added.

II. Election/Restriction:

(a) Applicants election: Applicants have elected group I, claims 1-7, specifically example 1 of claim 13 with traverse.

(b) The traversal is on the grounds that the relationship between the groups is misstated as intermediate-final product. The examiner agrees with the Applicant, but believes that the reasoning that follows indicates reasoning as to why the restriction is proper.

Group I, claim 1-10 and 15 drawn to product of claim 1.

Group II, claims 11, 13-15 drawn to an electrochemical cell employing the compound of claim 1.

Group III, claim 12, drawn to a capacitor also employing the product of claim 1.

Inventions of group I and groups II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product of group I may be used in two materially different ways, one in an electrochemical cell and the other in a capacitor.

are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different

inventions. Instantly, the electrochemical cell and the capacitor are not disclosed as useable together and they have different modes of operation by virtue of the number of electrodes employed or the utility and quantity of energy stored.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

(c) The Generic Concept:

As per the restriction/election outlined in paper no. 5, the generic concept is as follows:

Product of Claim 1 wherein:

K+ is imidazolium cation, where the R groups are as claimed; and

A- is an anion as claimed.

Claims 1-10 and 15 are readable on the elected group as identified supra. Parts of claims 1-10 and 15 claims 11-14 are withdrawn from consideration as being drawn to non-elected inventions. 37 CFR 1.142(b).

III. Rejections:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention

Claims 1-10 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being applicant regards as the invention. Claim 1 recites on page 21, lines 12-17, the definition of PR7 = OR[illegible] Applicants intend to claim that

these moieties individually or together are an aromatic *ring or chain* having 6-14 C atoms or are aliphatic *ring or chain* having 1-6 C atoms. Second, the phrase "and which is a carboxyl, dicarboxyl, oxysulfonyl or oxycarbonyl radical..." is ambiguous as it is unclear whether the phrase is modifying only the aliphatic substituent or in fact if it is modifying the aromatic substituent. Additionally, the phrase is also ambiguous in that it is unclear whether the carboxyl, dicarboxyl, oxysulfonyl or oxycarbonyl is part of an aromatic ring or chain or the aliphatic ring or chain, or in fact if it is a substituent off of the aromatic ring or chain or the aliphatic ring or chain. Clarification is required as to the claimed subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 4, 5 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by (1) Kuhn, et al and (2) JP 2000-254513

If Applicants meaning for the substituent OR7 to OR10 is where the oxycarbonyl is part of an aromatic ring, then

(1) JP 2000-254513 reference: Claims 1, 2 and 9 are anticipated where R2 and R4 are H; R3 is alkyl; OR7 to OR10 form an aromatic ring of a oxycarbonyl radical. See page 6, product 6.

an alkyl or alkylene moiety and R -R are alkyl moieties. See abstract product

Applicant may overcome these rejections by perfecting priority to the foreign priority document by providing an English translation of said document.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by (1) JP 11-209583, (2) JP 2000-17145, and (3) JP 11-171981.

If Applicants meaning for the substituent OR7 to OR10 is where the oxycarbonyl is part of an aromatic ring, then

(1) JP 11-209583 reference: Claims 1, 2, 3 and 9 are anticipated where R2 and R4 are H, R3 is alkyl, OR7 to OR10 form an aromatic ring of a oxycarbonyl radical; R2 and R4 are H, R3 is phenyl, R5 is alkyl and OR7 to OR10 form an aromatic ring of a oxycarbonyl radical. See page 7, products 5, 6 and 7.

(2) JP 2000-17145 reference: Claims 1, 2 and 9 are anticipated where R2 and R4 are H; R3 is alkyl; OR7 to OR10 form an aromatic ring of a oxycarbonyl radical. See page 5, product 5.

(3) JP 11-171981 reference. Claims 1-4 and 9 are anticipated where R2 and R4 are alkyl or

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over (1) Kuhn, et al or JP 2000-254513 and (2) JP 11-209583 or JP 2000-17145.

Applicants claim liquid ionic products wherein K+ is an imidazolium and A- is a borate product of formula seen in claim 1.

Determination of the scope and content of the prior art (MPEP §2141.01)

The above-cited references teach compounds that fall under the genus of the instantly claimed products. See anticipation rejection supra.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

(a) that the prior art teaches a specific alkyl member for a substituent on the 1 position of the imidazolium ion is methyl in all the Japanese references, whereas instant claims 16 and 17 recite an ethyl substitution at said position, and

(b) the prior art teaches a methyl substitution for the R7-R10 moieties in the Kuhn, et al reference, whereas instant claim 6 claims an alkylene substitution.

Finding of prima facie obviousness---rationale and motivation (MPEP §2142-2413)

However, it would have been prima facie obvious for one of ordinary skill in the art at the time of filing of the instant application to be motivated to substitute a homologue of methyl on either the imidazolium ion or the borate ion to make additional useful products in the electrochemical arts because to those skilled in chemical art, one homologue is not such an advance over adjacent member of series as requires invention because chemists knowing properties of one member of series would in general know what to expect in adjacent members.

IV. Objections:

(a) Claims 11-14 are objected to as being drawn to non-elected subject matter. 37 CFR 1.142(b).

V. Contact Information:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea D. Small, whose telephone number is (703) 305-0811. The examiner can normally be reached on Monday-Thursday from 8:30 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph K. McKane, can be reached at (703) 308-4537. The Unofficial fax phone

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right) "Official" for papers that are to be entered into the file and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [Joseph.McKane@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via Internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-1234

Andrea D. Small, Esq.
April 17, 2003

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